

### **REMARKS**

The Final Office Action dated February 8, 2005 has been considered. Favorable reconsideration and allowance of the subject application are respectfully requested in light of the following remarks.

#### **Summary of the Final Office Action**

Claim 1 stands rejected under 35 U.S.C. § 102(e) as being anticipated by Tsujimura (U.S. Patent No. 6,614,059) (hereinafter "Tsujimura").

Claims 1 and 2 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Tsuda (U.S. Patent No. 6,399,966) (hereinafter "Tsuda").

Claims 1-7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kondo (U.S. Patent Publication No. 2004/0061054) (hereinafter "Kondo") in view of Tsuda.

#### **Summary of the Response to the Office Action**

Applicants amend independent claim 1 and add new claim 8 to differently describe aspects of the instant application's disclosure. Accordingly, claims 1-8 are currently pending for consideration.

#### **The Rejections under 35 U.S.C. §§ 102(e) and 103(a)**

Claim 1 stands rejected under 35 U.S.C. § 102(e) as being anticipated by Tsujimura. Claims 1 and 2 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Tsuda. Claims 1-7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kondo in view of Tsuda.

Applicants have newly-amended independent claim 1 to differently describe aspects of the instant application's disclosure. To the extent that these rejections might be deemed to apply to the claims as newly-amended, they are respectfully traversed as follows.

Independent claim 1 has been newly-amended to recite a combination of features of an illuminant that converts incident electrons into fluorescence. The illuminant recited in newly-amended claim 1 includes an entrance surface for taking the incident electrons into the illuminant. It also includes an emitting surface for outputting at least part of the fluorescence converted from the incident electrons in the illuminant, the emitting surface opposing the entrance surface. Also included is a substrate that is transparent with respect to the fluorescence and having a first surface and a second surface that opposes the first surface and that corresponds to the emitting surface. In addition, claim 1 includes a nitride semiconductor layer provided on and in direct contact with the first surface of the substrate while covering the entire first surface of the substrate, the nitride semiconductor layer including a quantum well structure that has an exposed surface corresponding to the entrance surface and that emits fluorescence in response to the electron incidence having passed through the entrance surface.

Applicants respectfully submit that the illuminant described in newly-amended claim 1 functions as an E/O converter. In particular, its specific structure is provided to achieve this functionality. In contrast, Tsujimura is directed to a Light Emitting Device (LED). Applicants respectfully submit that there is no teaching or suggestion in Tsujimura of any structure providing such E/O converter features as specifically recited in newly-amended claim 1. Moreover, Applicants respectfully submit that Tsuda also teaches an LED arrangement having

the same configuration as Tsujimura in these respects. As a result, Applicants respectfully submit that the outstanding rejections based on these references should be withdrawn. More particularly, newly-amended independent claim 1 includes the features of an illuminant, an electron entrance surface and a fluorescence emitting surface. The electron entrance surface is recited as corresponding to the exposed surface of the quantum well structure which is not covered by a layer. In addition, the fluorescence emitting surface is provided on the substrate.

In contrast, Fig. 1 of Tsujimura, for example, illustrates a light-emitting device ("LED") arrangement. Applicants respectfully submit that Tsujimura's LED has a layer 15 similar in structure to quantum well structure of the instant application's independent claim 1. While the layer 15 of Tsujimura's LED includes electron entrance surfaces, these surfaces are completely covered by the electrode or other layers. In other words, the LED arrangement of Tsujimura is particularly different from the entrance surface of the quantum well structure as specifically recited in independent claim 1.

In addition, Applicants respectfully submit that the light generated in the layer 15 illustrated in Tsujimura's Fig. 1 propagates through the optical guide layers 14 and 16 while it is confined within the optical guide layers 14 and 16 by the cladding layers 13 and 17. In other words, the light generated in the layer 15 propagates in parallel with the substrate 11. Applicants respectfully submit that the substrate 11 clearly does not have a fluorescence emitting surface feature in the manner described in independent claim 1 of the instant application. As a result, Applicants respectfully submit that the substrate 11 of Tsujimura cannot directly provide an emitted light which renders it clearly different from the substrate described in independent claim

1, as newly-amended. Moreover, Applicants respectfully submit that Tsuda has the same configuration as Tsujimura in these regards.

As described above, both Tsujimura and Tsuda are directed to LED arrangements. Applicants respectfully submit that it is clear that, for at least the foregoing reasons, these references do not teach, or even suggest, the E/O converter structure, as recited in independent claim 1.

Accordingly, Applicants respectfully assert that the rejections under 35 U.S.C. §§ 102(e) and 103(a) should be withdrawn because neither Tsujimura nor Tsuda, whether taken singly or combined, teach or suggest each feature of independent claim 1, as amended. As pointed out in MPEP § 2131, “[t]o anticipate a claim, the reference must teach every element of the claim.” Thus, “[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. Verdegaal Bros. v. Union Oil Co. Of California, 2 USPQ 2d 1051, 1053 (Fed. Cir. 1987).” Similarly, MPEP § 2143.03 instructs that “[t]o establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 409 F.2d 981, 180 USPQ 580 (CCPA 1974).” Applicants respectfully submit that the additionally applied reference to Kondo in the rejection under 35 U.S.C. § 103(a) with respect to claims 1-7, does not cure the deficiencies discussed above with regard to Tsujimura and Tsuda. Furthermore, Applicants respectfully assert that dependent claims 2-8 are allowable at least because of their respective dependence from claim 1 and the reasons set forth above.

**Applicability of Kondo as Prior Art**

In the previous Amendment filed on October 12, 2004, Applicants requested that the Examiner comment on how Kondo meets each and every requirement of 35 U.S.C. 102(e). In response, Examiner Quash noted at page 6 of the Final Office Action dated February 8, 2005 that “the examiner would like to indicate [sic] to the applicants that Kondo [2004/0061054] qualifies as prior art under 102 (e) due to its filing date being earlier than applicants’ earliest priority date.”

Applicants respectfully request further clarification from the Examiner in this regard. In particular, it is Applicants’ understanding that 35 U.S.C. § 102(e) provides that a published U.S. patent application is effective as prior art under 35 U.S.C. § 102(e)(1) as of the application’s effective U.S. filing date, which can include an international application filing date, if the following three conditions are met: (1) the international application was filed on or after November 29, 2000, (2) the international application designated the U.S., and (3) the international application PCT publication (by WIPO) was in the English language. From reviewing PCT WO 02/061458 A1, which Applicants understand is the WIPO publication of PCT/JP02/00726, it appears that at least item (3) of the foregoing items (1)-(3) is not met because the WIPO publication was not printed in the English language (i.e., it was printed in the Japanese language). This WIPO publication (PCT WO 02/061458 A1) was filed in an Information Disclosure Statement in this application on March 5, 2004. Accordingly, if Applicants’ understandings are correct, the U.S. Published Kondo Application does not qualify as prior art under 35 U.S.C. § 102(e). If Applicants’ understandings are incorrect in any of these

respects, it is respectfully requested that the Examiner provide an appropriate explanation.

Otherwise, the rejections based on Kondo should be withdrawn.

### **CONCLUSION**

Applicants respectfully submit that all pending claims are in condition for allowance, and a notice of such is earnestly solicited.

Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicants' undersigned representative to expedite the prosecution.

EXCEPT for issue fees payable under 37 C.F.R. § 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. §§ 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account 50-0573. This paragraph is intended to be a CONSTRUCTIVE PETITION FOR EXTENSION OF TIME in accordance with 37 C.F.R. § 1.136(a)(3).

Respectfully submitted,

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